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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,003	11/12/2003	Stephen Miller	2058.300C	5234

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EXAMINER
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YIP, WINNIE S

ART UNIT	PAPER NUMBER
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3637

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/726,003

**Applicant(s)**

MILLER, STEPHEN

**Examiner**

Winnie Yip

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on June 7, 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This is a first office action for application Serial No. 10/726,003 filed November 12, 2003 which is a continuation of co-pending application Serial No. 09/841,649 filed April 23, 2001, now patent No. 6,748,962.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brady '341 in view of Carter (US Patent No. 5,797,412).

Brady shows and teaches a collapsible support structure being provided: a plurality of interconnected frame sections (21) each comprising: a first and second elongated rigid members (39, 40) having first ends (23) being hingedly joined by a hinge member (41), a collapsible elongated member (32) comprising an elongated flexible tensioning member (26) connected between two second ends of the first and second elongated rigid members, a first (33) and second (34) hollow tubular rigidizing members extending along two sides of the elongated flexible tension (26), and a rigidizing sleeve member (36) mounted on one of the first and second hollow tubular rigidizing members (i.e., 34) and sized to slidably engage and connect other one of the first and second hollow tubular rigidizing members (i.e., 33) when the two hollow tubular rigidizing members are essentially axially aligned and the rigidizing members are positioned to

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slideably engage each another to form the collapsible elongated tubular member extending essentially between the second ends of the first and second elongated rigid members, and the interconnected frame sections each form a triangle as a portion of a geodesic structure or a portion of truncated icosahedrons as claimed such that the interconnected frame sections of Brady's collapsible support structure capably provided between two lesser circle polygonal shape in arrangement as claimed. However, Brady does not define the rigidizing sleeve member being slideably mounted on the first or second hollow tubular member and sized to slideably engage and connect the other of the first and second hollow tubular member as claimed. Carter shows and teaches a collapsible support structure comprising a plurality of collapsible elongated members (82) each including an elongated flexible tensioning members (92), a first and a second hollow tubular rigidizing members (84) extending along two sides of the flexible tensioning member, and a rigidizing sleeve (88) slideably mounted on one of the hollow tubular rigidizing member (i.e., 86) and slideably engaging and connecting the other one of the hollow tubular rigidizing member (i.e., 90) when two hollow tubular rigidizing members are essentially aligned to provide rigidizing means for rigidly jointing two hollow tubular rigidizing members together, in combination, with the elongated flexible tensioning members for maintaining and collapsing the elongated rigid members in an open and collapsed positions. It would have been obvious to one ordinary skill in the art, at the time the invention was made, to modify the collapsible support structure of Brady having the collapsible elongated members formed with rigidizing sleeves being slideably engaging both the first and second hollow tubular rigidizing members as taught Carter instead of the rigidizing sleeve being fixed to one of the

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hollow tubular rigidizing member for more flexibly jointing two hollow tubular members in the collapsing or erecting position.

Regard to claims 6-10, Brady shows the first and second elongated rigid members (39, 40) being elongated one-piece rigid members as claimed.

3. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brady '341 in view of Carter '412 and Orobin '887.

Brady teaches a collapsible support structure being provided: a plurality of interconnected frame sections (21) each being a geodesic structure such as a triangle, each interconnected frame section comprising: a first and second one-piece elongated rigid members (39, 40) each having a first end (23) and a second end (20), the first ends of the first and second one-piece elongated rigid members being joined together by a hingedly joint (41), a third elongated rigid member (other adjacent member 39) having a first end (20) hingedly connected to the second end of the second elongated rigid member (40) at the corner (22) of a lesser circle polygonal shape, a first collapsible elongated member (32) having an elongated flexible tension (26, or 27, or 30) connecting the second ends (20) of the first and second elongated rigid members (39, 40), a first and second hollow tubular rigidizing members (33, 34) extending along two sides of the elongated flexible tension (26), and a rigidizing means (38) including a rigidizing sleeve (36) mounted on one of the first and second hollow tubular rigid members (i.e., 34) and sized to slidably engage and connect other one of the first and second hollow tubular rigid members (33, 34) for selectively providing rigidity in combination with the elongated flexible tensioning member to allow tension to be applied between two elongated rigid members,

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wherein the interconnected frame sections form portions of a geodesic structure and truncated icosahedrons.

Brady does not define the rigidizing sleeve member being slideably mounted on the first or second hollow tubular member and sized to slideably engage and connect the other of the first and second hollow tubular member as claimed. However, Carter shows and teaches a collapsible support structure comprising a plurality of collapsible elongated members (82) each including an elongated flexible tensioning members (92), a first and a second hollow tubular rigidizing members (84) extending along two sides of the flexible tensioning member, and a rigidizing sleeve (88) slideably mounted on one of the hollow tubular rigidizing member (i.e., 86) and slideably engaging and connecting the other one of the hollow tubular rigidizing member (i.e., 90) when two hollow tubular rigidizing members are essentially aligned to provide rigidizing means for rigidly jointing two hollow tubular rigidizing members together, in combination, with the elongated flexible tensioning members for maintaining and collapsing the elongated rigid members in an open and collapsed positions. It would have been obvious to one ordinary skill in the art, at the time the invention was made, to modify the collapsible support structure of Brady having the collapsible elongated members formed with rigidizing sleeves being slideably engaging both the first and second hollow tubular rigidizing members as taught Carter instead of the rigidizing sleeve being fixed to one of the hollow tubular rigidizing member for more flexibly jointing two hollow tubular members in the collapsing or erecting position.

And, Brady does not define the collapsible support structure having a second collapsible elongated member being hingedly connected respectively between the joint (41) of the first ends

of the first and second elongated rigid members and the second ends of the third elongated rigid member to form a floor portion of the structure such that the structure having two adjacent interconnected triangles being shared with one rigid elongated member as claimed. However, Orobin teaches a collapsible support structure having a plurality of triangular interconnected frame section each having a first and second elongated rigid members (1) having ends being jointed together by a hinge member (2), a plurality of collapsible elongated members formed by two rigidizing members (3) being hingedly connected between the respectively upper ends and lower ends of the elongated rigid members to provide a plurality of triangular interconnected frame sections adjacent each other in arrangement as claimed. It would have been obvious to one ordinary skill in the art, at the time the invention was made, to modify the collapsible support structure of Brady in view of Carter having other collapsible elongated members being hingedly connected between the ends at the lower portion of the respective elongated rigid members as taught by Orobin for providing the lower portion of the structure having interconnected frame sections formed with a parallelogram having adjacent interconnected triangles sharing with one of the elongated rigid member as claimed when the structure is in a open position.

#### *Citations*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Griesenbeck '956 teach a collapsible elongated member having rigidizing connecting mechanism including a rigidizing sleeve member slidably connecting two alighted hollow tubular rigidizing members together as similar to the claimed invention. Campbell '740 teaches

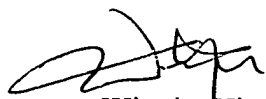
a plurality of ends of elongated rigid members having looped eyelets being connected together as similar to the claimed invention. European Patent 20770 teaches a collapsible support structure comprising a plurality of triangular interconnected frame sections each having a collapsible elongated member connecting two ends of two tubular rigidizing members as similar to the claimed invention.

***Inquiry Contacts***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Winnie Yip whose telephone number is 703-308-2491. The examiner can normally be reached on M-F (9:30-6:30), Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 703-308-2486. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Winnie Yip  
Primary Examiner  
Art Unit 3637